Applied Research Brief on

QUALITY OF HEALTH CARE AND COST RECOVERY IN AFRICA: EVIDENCE FROM NIGER AND SENEGAL

Phases 2 and 3: Field Work, Research Results, and Policy Recommendations

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SUMMARY BRIEF

BACKGROUND

USAID's Health and Human Resources Analysis for Africa (HHRAA) project asked the Health Financing and Sustainability (HFS) project to conduct research on several issues related to quality, costs, efficiency, and financing of health services in Africa. HHRAA asked HFS to build on data related to health financing and efficiency of service delivery it already had collected in field surveys in Niger and Senegal, as well as to collect new survey data on quality of care. This report presents the findings from that comparative research, using data from provider, patient, and household surveys conducted from 1992-1994. It analyzes relationships between quality of care and cost recovery reforms in Niger and relationships between quality of care and efficiency in the public and private sectors in Senegal. It also draws conclusions applicable to other countries in Africa in similar circumstances. (*The complete study is available in French and English from the HFS Project Information Center or the HHRAA Project office.*)

RESEARCH AND POLICY ISSUES

This study assesses comparable data on several dimensions of quality for two countries, as well as for the public and the private sectors. In addition, this study breaks new ground by combining quality data with information on financing, costs, and efficiency from the same facilities. It uses this combined data to illustrate and draw conclusions about the role of quality improvements in cost recovery, impacts of quality on cost and efficiency, and prospects for sustainable financing of quality improvements in African health systems.

The quality surveys conducted for this study add to the growing body of evidence about quality in public facilities in Africa and are among the very few attempts to collect comparable data for the private sector. These data show that there can be important differences in quality within the private sector and between the public and private sectors. These differences have implications for public sector policies toward private providers of health care, as well as for efforts to improve access to quality care through services provided or financed by the government.

Findings from this study also suggest how strategies to improve quality can increase efficiency, raise demand for services, and help generate funds to sustain the quality improvements. They also indicate the importance of channeling private and public funds to support locally appropriate quality improvements.

METHODOLOGY

Data Sources

Data for Niger come from 18 primary health care facilities in three districts where the Ministry of Health was conducting a pilot test of two different financing methods: 1) a local, annual tax plus a small fee-per-episode at the time of using a service and 2) a straight fee-per-episode paid at the time of

use. Several quality improvements were an integral part of this pilot test: assuring a basic stock of generic brands of essential medicines, training for health workers in diagnostic and treatment protocols, and introduction of an administrative and fee collection support system. Data on quality, costs, and financing were collected in 1992 and 1993 from facility and patient interviews at the 18 facilities and from a random sample survey of 1,800 households in the three districts.

In Senegal, no deliberate effort to improve quality was taking place in either the public or private sectors at the time of the surveys. Data on quality, costs, and efficiency were collected in 1993 from a nationwide sample of 95 public hospitals, health centers, health posts, and health huts and from 57 private ambulatory health facilities, including Catholic health posts, company clinics, for-profit clinics, and other clinics run by charitable organizations.

Quality Measurements

Both the Niger and Senegal studies conducted assessments of quality of care which included similar measures of structure, process, and outcome. The quality surveys measured quality from both provider and patient perspectives for both clinical and, in Niger, support services (e.g., management information, record-keeping, medicine inventory management, and management of fee revenues). Both studies included information on quality infrastructure (e.g., staff and training; availability of essential drugs, vaccines, and medical supplies), as well as on process indicators (e.g., medical staff compliance with various clinical standards of diagnosis and treatment). In addition, the surveys measured outcome indirectly through provider and patient satisfaction interviews.

Efficiency Measurements

This study used two indicators of efficiency for the public and private health providers in the Senegal study: 1) productivity of health workers measured in terms of average number of visits per health worker per day, and 2) availability of an appropriate combination of resources to deliver health services, measured by the proportion of a facility's resources allocated to personnel and to medicines and other supplies needed by personnel to perform their work. These measures should be taken as indicative only, since, like other studies of this topic, this study did not have adequate data to adjust the efficiency measures for differences in quality, case-mix, size, and other factors that affect the relation between resources needed to produce a given health service outcome.

FINDINGS

1. QUALITY OF HEALTH SERVICES

Basic infrastructure and processes to ensure quality in the public sector health facilities are frequently lacking

The assessments of quality in public sector health facilities in Niger and Senegal revealed similar problems. Although it is not possible to develop meaningful summary indexes of quality, in general findings from the surveys in Niger and Senegal revealed systematic empirical evidence of conditions that

are often reported anecdotally. Public health facilities at all levels of the system in Senegal and in the primary care facilities in Niger, prior to the pilot tests, experienced frequent stockouts of drugs, supplies, and equipment; diagnosis and treatment protocols were not available in facilities; reliable data on costs and revenues were seldom available; and health workers often did not follow standard treatment protocols for such common problems as fever and diarrhea.

For example, in Senegal, over half the cases observed showed good compliance with routine procedures such as baby weighing or vaccination. But over 50 percent of the cases showed poor provider-patient communication and failure to give routine diagnostic tests; 85 percent showed failure to wash hands. In Niger, before the pilot test intervention, health workers lacked knowledge about basic diagnostic and treatment protocols, and drugs and supplies rarely existed.

Improvements needed to correct these typical structural and procedural deficiencies are more related to establishing the basic service delivery base than to enhancing quality once the basic services and practices are in place.

Improvements in basic structural aspects of quality are often easier to make than process improvements

In the pilot project area of Niger, efforts to upgrade quality resulted in observable improvement in staff training, availability of vaccines and family planning commodities, medical supplies, and availability of guides and manuals for diagnostic and treatment protocols, cash and drug management. But once this basic infrastructure was in place, even with the presence of diagnostic and treatment guidelines, significant gaps in the implementation of these protocols were observed. Although a large percentage (75 percent) of facilities in Niger performed relatively well, after training, on "welcoming" and "history taking," only a small percentage (less than 25 percent) did well on diagnostic exams, monitoring of vital signs, or patient communication.

Private sector providers often outperform the public sector in quality of care

The Senegalese private sector performed better than the public sector in several respects. Stockouts of drugs, equipment, and supplies were much less frequent. Compliance with routine medical procedures was better in private facilities, but both public and private providers could significantly improve in implementing fever and diarrhea protocols. Public facility staff perceived their care to be quite average or below, in contrast to their private sector counterparts who generally perceived their care to be good.

In spite of quality variations between the public and private sectors, patients declared that they were satisfied regardless of the provider. Patient satisfaction measured by exit interviews should, however, be interpreted cautiously since they often do not uncover negative attitudes, especially in sub-Saharan Africa.

Quality varies within the private sector

In the private sector, important variation in quality existed among different types of private providers. Generally, for-profit and Catholic providers offered the best care. They had no stockouts, good

compliance, and satisfied staff and patients. Company clinics and 'other' private providers (run by charitable organizations) suffered from occasional stockouts and poor compliance with protocols. Staff of 'other providers' were particularly dissatisfied.

Patients and providers perceive quality differently

In Senegal, where surveys measured both patient and provider satisfaction, findings indicated important differences in the two perspectives. Patients appeared to be more satisfied with the care they received than providers were of the care they rendered. Providers tended to focus on the availability of supplies and drugs in making their assessments. Patients considered a variety of factors including economic, geographic, and psychologic reasons.

Some aspects of patient-perceived quality increase utilization more than others

Patients in Niger seemed quite aware of the quality improvements in medicines and a majority thought that this improvement was responsible for increasing utilization in the districts where improvements had been introduced. In addition, 35 percent of the patients in one of the sites indicated that "free follow-up visits" were responsible for increased utilization.

2. RELATIONSHIPS AMONG QUALITY, COSTS, AND EFFICIENCY

High costs of improving quality often reflect costs of establishing the service base

For Niger, quality improvements required significant expenditures in both fixed (e.g., training, protocol development, durable equipment) and variable costs (e.g., drugs and supplies). For example, the value of drugs that public health facilities consumed was 2.5 times greater in one pilot test district, and 3 times greater in the other, than the annual drug allocations from the central Ministry of Health budget. The support costs necessary to operate the cost-recovery activities (e.g., printing of materials and compensation for personnel administering the fee collection and information system) represented at least a 25 percent increase over the Ministry's usual budget allocation for non-medicine operating costs. Information was not available for this study on the additional costs of in-service training, materials development, and other activities associated with upgrading the diagnosis and treatment protocol.

Many of the resources required to implement the quality improvements in the Niger pilot test area—and in similar circumstances in many other African countries—can be viewed as the "costs of doing business" or simply establishing the service delivery base. It is precisely because these represent many of the fixed investment costs and the basic variable costs related to numbers of people served that they are so large relative to currently underfunded Ministry of Health budgets. Once these basic resources are in place, additional expenses needed to enhance their quality (e.g., compliance with more cost-effective drug prescription protocols) should represent a smaller share of adequate, ongoing operational expenses.

Efficiency and productivity of the public sector is often lower than in the private sector and some private providers are more efficient than others

Using indicators of efficiency available for this study, generally large differences in efficiency existed between public sector providers and some categories of private sector providers. As measured by number of visits per day, efficiency in public facilities in Senegal was generally quite low in health facilities at all levels and for all medical personnel in the study sample (doctors, nurses, medical technicians, and midwives), though some regional variation existed. For example, doctors in health centers in the capital, Dakar, saw fewer than two ambulatory patients per day and assisted fewer than two hospitalized patients. The highest productivity in the public sector reached only five patients per day in one of the regions.

In contrast, doctors in Catholic posts had an average of over 40 curative outpatients per day, compared with company clinic doctors who saw 20 patients daily, and for-profit doctors who saw 10 patients per day.

As indicated by the mix of personnel and non-personnel resources, efficiency in the public sector also scored low, while it was mixed for the private sector. For example, on average the majority (75 percent) of resources in public sector facilities in Senegal were devoted to personnel costs, leaving large deficiencies in medicines and supplies needed to support health personnel work. In the private sector, for-profit, Catholic, and company facilities devoted much smaller shares of their resources (about 40 percent on average) to personnel costs. One set of private providers, however, the other charitable providers, had even higher proportions of resources (90 percent) allocated to personnel than did the public sector.

Greater efficiency can be associated with higher quality

Although the evidence is limited, data from Senegal suggests that providers with higher productivity may not necessarily sacrifice quality in order to produce more services. For example, for-profit and Catholic providers saw more visits per health worker than did public sector providers. They also had a more efficient ratio of medicines and other supplies per health worker. And, as noted above, these categories of private providers offered generally better quality of care. Nevertheless, some private sector providers with higher output than public sector providers had some notable problems in the quality of care offered (company and 'other' clinics).

Poor quality undermines efficiency and cost effectiveness

Findings from Senegal suggest that poor quality of care might cause inefficiencies in the public health sector, though this cannot be shown conclusively. For example, poor quality could have reduced demand for services, causing low productivity of health workers. Also, skewed distribution of resources towards personnel, with inadequate funding of medicines and supplies needed for them to practice effectively, undermined attempts to offer effective care and also rendered personnel less productive. In both Niger and Senegal, poor compliance with treatment protocols diluted the efficacy of service delivery. Optimal cost-effectiveness of the services could not have been achieved in these circumstances.

3. QUALITY AND FINANCING

Initially user-fee systems may cover part or all medicine costs, but cannot be expected to finance all quality improvements without additional support from some other form of financing

Most cost recovery initiatives in Africa have been established with a primary goal of recovering part or all of the costs of medicines, maintaining a revenue flow sufficient to assure a steady supply of basic drugs, and contributing to other quality improvements (e.g., facility maintenance, supervision, in-service health worker training). Findings from Niger suggest that cost recovery reforms may only cover some of the costs of quality improvements, at least in the short run.

In one of the Niger pilot test sites (tax plus fee-per-episode), revenues from the fees alone covered about 34 percent of the costs of medicines or about 20 percent of costs of drugs and cost recovery administration. In the other site (straight fee-per-episode), revenues from user fees covered about half the costs of medicines and less than half the amount spent on medicines and administration of cost recovery. In both sites, however, patients expressed willingness to pay higher fees to support these quality improvements.

In Senegal, where the public sector had a relatively long history of charging fees for services and medicines at the time of the survey for this study, user fees accounted for 22 percent of medicines in hospitals, 55 percent in health centers, and 94 percent in health posts. If current allocation patterns for fee revenues were changed such that *all* fee revenues went to medicines, fees could cover 61 percent of hospital medicine costs, and health centers and health posts could recover 100-200 percent of current drug costs.

Government budgets continued to provide heavy support in both countries. In Niger the government continued to provide previous levels of subsidization. The World Bank funded initial stocks of pharmaceutical supplies and recurrent partial subsidies to replenish these stocks. The Belgians provided assistance in developing and implementing the diagnostic and treatment protocols. Much of the planning, design and implementation of the pilot tests was supported by USAID funds. In Senegal, on average, the government provided for 84 percent of the hospitals' sources of recurrent funding, 87 percent for health centers, 60 percent for health posts, and 0 percent for health huts.

Some financing mechanisms raise more revenue than others, but all financing mechanisms should ensure that sufficient funds are earmarked to pay for quality improvements

Evidence from Niger showed that local earmarked taxes improved revenues because they required mandatory payments from both users and non-users. In the Niger pilot district that implemented a tax plus fee-per-episode financing mechanism, revenue from *both* the taxes and fees covered 120-180 percent of the cost of medicines, or 75-105 percent of the cost of medicines plus administration of cost recovery. Nevertheless, even in the tax plus fee-per-episode district, it is important to recognize that the amount of tax collected was not directly linked to the amount of medicines used, may not cover the same percentage of medicine costs each year, and pays for some services which could eventually be offered through private providers. Other forms of social financing which have similarities to the tax mechanism should be explored including risk-sharing and prepayment.

Consumers are Willing to Pay for Quality

In both Niger and Senegal, evidence from this study suggests patients' willingness to pay for quality improvements. In Niger, both pilot test districts experienced stable or increasing rates of utilization, suggesting that the negative price effects on utilization were offset by the positive quality effects. A patient survey indicated that over 80 percent of the people affirmed the desirability of cost recovery and improved quality over the previous health delivery system. A majority of people of all income groups also said they were willing to pay higher fees if necessary to assure an adequate drug supply.

In Senegal, detailed evaluation of health care utilization and financing patterns was not done. However, facility-level data suggested an important linkage between quality and use of health services. Public health facilities with the highest proportion of patients receiving drugs also belonged to the highest utilization group. Similarly, those public facilities giving the highest proportion of prescriptions, rather than the drugs themselves, fell in the lowest utilization groups.

CONCLUSIONS AND RECOMMENDATIONS

1. Findings from this study, as well as others, show that one of the principal needs for, and principal costs of, improving quality at MOH facilities is assuring an adequate supply of essential medicines. Assuring an adequate stock of basic drugs simultaneously establishes the basic service, improves effectiveness of health personnel, attracts patients to the facility, and provides grounds for their willingness to pay for services. But improving drug supply from the low baseline that often exists prior to cost recovery can require increases in drug expenditures that are several times greater than previous Ministry of Health budget allocations for medicines.

   These findings suggest that appropriate drug policies are likely to be among the most important policy actions that could simultaneously improve quality, effectiveness of care, and cost-effectiveness of health expenditures already made.

   They reinforce recommendations made elsewhere that Ministries of Health pay particular attention to drug purchasing and distribution policies, training for health workers in appropriate drug prescription practices, and use of lower-cost generic medicines.

2. Findings from this study reinforce recommendations made elsewhere that Ministries of Health should plan to maintain continuing in-service training, supervision, and other mechanisms for complying with quality standards. One-time training or supplying manuals is not enough to maintain an initial level of health worker quality. New approaches to Total Quality Management and traditional quality assurance can be adapted and integrated in broader management and information systems to do this most cost-effectively.

   From a managerial point of view, implementing quality improvements in general require several key steps. As a first step, practice guidelines for diagnostic and treatment protocols (including patient-provider relationships), and for other support services (logistics, information systems,

management) should be developed. The role of support services (beyond supervision) in enhancing the quality of care needs more attention.

Process standards should identify the key steps in each process while allowing some room for variations in practice. The goal should not be to create rigid step by step 'cookbook medicine', but rather to provide guidance on cost-effective procedures, recognizing that for some illnesses, clear-cut evidence on cost-effective treatment is still lacking, especially when local- and patient-conditions are taken into account.

Second, each process guideline should be accompanied, in parallel fashion, by a corresponding list of resource requirements. In the past, this step has rarely been done. Third, quantifiable indicators for medical and support services and resource requirements should be identified and benchmarks chosen for monitoring the successes and failures of implementation. A critical part of this step is to obtain consensus among experts on the key steps which should be implemented since consensus is unlikely on all aspects of the standards.

More reliable and valid indicators of patient satisfaction are needed. Comparisons of the advantages and disadvantages of various methods, such as focus groups, exit interviews, informal interviews, client windows, and household patient surveys, should be conducted. Developing measures of health outcome and attributing changes in health status to specific treatments are important but daunting tasks; however, attempts should be made to improve quality assessments in this respect.

3. Substantial segments of the private sector appear to be both efficient and offer high-quality care. Efforts should be made to encourage the growth of these private providers. In addition, more specific information is needed on aspects in which quality private providers excel (best practices), what incentives and conditions exist in the private sector to encourage high quality, and what is required to identify poor quality private providers and to either improve them or discourage patients from using them (e.g. regulation, public information). The variation in quality which occurs in the private sector must be dealt with. A key question is whether the public sector can emulate the positive aspects of private providers. More analysis of this question is needed.

4. This study's findings suggest that some quality improvements may be more important to undertake than others, for purposes of sustainability. The evidence suggests two important criteria to take into account in choosing which quality improvements to undertake initially.

First, given scarce resources and limited government health budgets, it is important to identify quality improvements that will most improve cost-effectiveness of service delivery (e.g., medicines and medical supplies that are critical to health workers' ability to deliver effective services for health problems that a majority of the population incurs) and that generate significant cost savings (e.g., better drug prescribing practices and consumer education about the use of drugs).

Second, given widespread evidence that people's perception of quality is key to their willingness to pay for health services, it is important to tap willingness to pay for quality. Ministries need to learn more about what aspects of quality—in addition to a more adequate supply of

drugs—people are most willing to pay for, and they need more reliable ways to measure patient satisfaction in order to monitor the impact of improvements.

5. At a managerial level, cost analyses of quality improvements should be conducted using the following priorities. First, in a situation where the health infrastructure has seriously deteriorated, it is likely that some additional resources will have to be put in place. In such a case, it would be important to estimate the costs of achieving minimum resource needs and to ascertain the means for financing these costs. Second, for a given illness, if substantial debate exists about which standard of treatment should be promoted as policy, analysis would include assessing the cost-effectiveness of the alternatives under consideration. Third, only when the basic resources for implementing standards of practice and supporting services are in place, is it more appropriate to begin looking at the costs of improving processes. Costing is particularly useful when it can be demonstrated that certain improvements in the quality of implementation generate significant cost-savings or that they result in significant cost increases. Costing is less necessary when the cost implications are minimal or obvious. However, to encourage more attention to quality improvements, it would be informative to document those which can be made with little or no additional resources.

6. Because of the key role of quality in affecting costs of the service delivery system, as well as prospects for sustainable financing, Ministries of Health need to a) estimate the recurrent and investment costs, and the fixed and variable costs of any quality improvements planned in the basic infrastructure and in processes that maintain quality; b) identify simple, low-cost ways to measure and monitor the costs of quality improvements; and c) evaluate the impact that quality changes are having on utilization and health outcomes. These analyses are important to assure that the most cost-effective quality improvements are introduced, to assure that cost-savings are maximized, to lay the bases for identifying appropriate financing methods, and to make the greatest improvement in health status.

7. Findings from this study reinforce evidence from other field research that the minimum fees usually introduced at early stages of cost recovery are not likely to cover all the costs of quality improvements. Where user fees do not cover even the costs of an improved medicine supply, or other (variable) costs associated with the number of patients using services, the health system in effect incurs an increased cost for every patient using the services. As long as this continues, this increased cost has to be covered by public budgets, higher user fees, and/or continued donor assistance.

   Because of the substantial costs of improving quality, Ministries of Health need to consider several financing options in order to assure sustainability of quality improvements and avoid having a one-time improvement end when donor funding ceases. In most instances, it is likely that a combination of fees, national taxes, local taxes, and risk-sharing mechanisms will be necessary. To make these mechanisms equitable and to protect the poor, subsidies, special targeting, and formal or informal means testing are also likely to be needed.

   Evidence from this and other studies suggests two feasible alternatives for raising additional revenues. First, data affirming people's willingness to pay for higher quality health services

suggest that fees in the public sector might be higher than initially thought. Second, some kind of local earmarked tax mechanism or other form of social financing, such as risk-sharing or prepayment, that raises funds from the district/community population, not just those who fall ill during a year, show potential for raising significant funds.

8. Having the necessary legislative infrastructure in place to legitimize new forms of decentralized revenue collection and the use of these revenues for improving quality is important for the sustainability of quality improvements at a local level. Laws setting in place local management of tax, user fee, and other social financing revenues and encouraging the use of funds to support quality improvements locally are important.

9. The evidence showed that patients perceive improvements in quality of care and that they respond differently to different aspects of quality. Governments should place more importance on disseminating information on quality of the various aspects of the system so that patients can make better use of the system for their benefit and for the benefit of the system as a whole.

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